2013

The Premium for Part-Time Work in Australia

Iris Day
University of Wollongong

Joan Rodgers
University of Wollongong

The Premium for Part-Time Work in Australia

by

Iris Day and Joan Rodgers

School of Economics,
University of Wollongong,
Wollongong N.S.W.,
Australia

September 2013

School of Economics
Faculty of Business
University of Wollongong

Corresponding author:
Joan R. Rodgers
Email: joan_rodgers@uow.edu.au
Tel: 61 02-42214383
Fax: 61 02-42213725

JEL classifications: J31, J32, J33

The Premium for Part-Time Work in Australia

Abstract

Booth and Wood (2008), using longitudinal data from 2001 through 2004, found a large part-time wage premium for both men and women in Australia. Longitudinal studies of the full-time/part-time wage differential in other countries find small penalties or premiums, or no significant wage differentials. The objective of this paper is to explain the nature of the premium in Australia. We find the premium is pervasive across age groups, occupations and industries. It is not explained by the way part-time work is defined, or by the pay loading received in Australia by employees on casual contracts. We find substantial hourly wage increases accompany a move into part-time employment and similarly large hourly wage decreases occur when moving into full-time employment. The magnitude of these wage changes is smaller when the change from full-time to part-time employment (or *vice versa*) occurs with a change of employer. For women, we found evidence that the contemporaneous effect on the wage of moving into, or out of, part-time employment is not sustained beyond one, or at most two, years.

I. Introduction

According to the Australian Bureau of Statistics (ABS, 6202.0) approximately 30 per cent of employed Australians currently work fewer than 35 hours per week, nearly double the rate three decades ago. The trend towards part-time work is not unique to Australia, with the United States, the United Kingdom and Canada experiencing increasing proportions of employed persons working part-time (Gornick and Jacobs, 1996). Even so, Australia has the third highest rate of part-time employment among the 34 countries in the Organization for Economic Cooperation and Development (OECD), behind only the Netherlands and Switzerland.[1]

Part-time employment provides an opportunity for people to remain in the labour force at times when they would be unable or unwilling to work full-time. Indeed, less than 25 per cent of Australian men and less than ten per cent of Australian women who work part time report that they do so because they could not find a full-time job. Nevertheless, there is concern about the high rate of part-time employment because part-time jobs are perceived as paying lower wages, having irregular work schedules, lower job security and fewer career opportunities than full-time jobs. In Australia, this is partly associated with the fact that approximately half of part-time workers are employed on a casual basis, whereas less than ten per cent of full-time workers are casual. By definition, casual employees do not have access to paid annual leave or paid sick leave (ABS, 6105.0).

It is true that the average hourly wage of part-time workers is lower than that of full-time workers, both in Australia and in many other countries. However, a 'raw' part-time wage penalty does not allow for the possibility that part-time and full-time workers have different levels of human capital, nor for the possibility that part-time and full-time jobs have different

[1] In each year since 2009, approximately 37 per cent of workers in the Netherlands were employed for fewer than 30 hours per week. In Switzerland the figure was 26 per cent and in Australia 25 per cent (OECD, 2012).

characteristics. When the attributes of workers and jobs are taken into account, a large, 'adjusted' part-time wage premium is observed in Australia (Booth and Wood, 2008), a result that is at odds with what is observed in the United Kingdom (Connolly and Gregory, 2009) and, to a lesser extent, in the United States (Hirsch, 2005). The objective of this study is to understand why a part-time wage premium is observed in Australia. This is important not only because a substantial, and increasing, number of Australians are working part time, but also because a premium (or a penalty) for part-time work suggests a lack of competition in the labour market and has implications for productivity.

The rest of this paper is organised as follows. Section II briefly reviews the reasons for the existence of a part-time/full-time wage differential given by economic theory as well as explanations relating to institutional conditions that are peculiar to Australia. Section III summarises results from the relevant empirical literature. The data used to estimate part-time/full-time wage differentials are discussed in Section IV and descriptive statistics are presented in Section V. The results from estimating three models are presented in Section VI. Concluding remarks are offered in Section VII.

II. Economic Theory and Australian Labour-Market Institutions

Economic Theory

The textbook explanation of a part-time wage penalty given homogenous jobs and workers, is the existence of quasi-fixed costs, which vary with the number of workers but not with the number of hours worked per week (Hyclak, Johnes *et al.*, 2005, p. 58). If the same hourly wage were to be paid to all workers, it would take the firm longer to pay off these costs for a part-time worker than for a full-time worker. The problem is compounded if part-time workers have higher turnover rates than full-time workers (Casey, Metcalf *et al.*, 1997). Quasi-

fixed costs imply that an employer will be willing to pay a higher hourly wage to a full-time worker than to a part-time worker.

An excess supply of part-time workers will depress part-time wages relative to full-time wages if people are unwilling or unable to move between part-time and full-time jobs and if employers are not indifferent to how they schedule hours among workers. That is, if employers do not view part-time and full-time workers as perfect substitutes, and if there are more individuals who wish to work part-time than the number of part-time jobs available, a part-time wage penalty is expected.

There are reasons why part-time workers are willing to accept a lower wage than their full-time counterparts. Many part-time workers have family responsibilities and therefore have a high opportunity cost of time spent in employment. They might limit their job search to areas close to home or to jobs with flexible working conditions. These non-monetary features of part-time work make it attractive, in which case the theory of compensating wage differentials suggests there will be a part-time wage penalty. On the other hand, fringe benefits, such as health insurance and pension plans, form part of total remuneration so, other things equal, jobs with fringe benefits will pay a lower wage than those without. Fringe benefits represent a quasi-fixed cost so part-time workers are less likely to receive them (Blank, 1990; Montgomery and Cosgrove, 1995), implying that part-time jobs will pay a premium in compensation for lower receipt of fringe benefits.

There are other reasons why employers might pay part-time workers a premium. In businesses that face periods of fluctuating demand, part-time workers are more productive than identical full-time workers because they can be employed to work during peak times only whereas full-time workers would be idle for much of the time. The efficiency-hours hypothesis also provides an explanation of why part-time workers might be more productive than full-time workers. If productivity initially increases with hours worked but declines after reaching a

maximum then some part-time workers will be more productive than some full-time workers (Booth and Ravallion, 1993).

In summary, economic theory offers several explanations for the existence of a part-time/full-time wage differential but it does not unambiguously predict either a part-time wage penalty or a part-time wage premium.

Australian Labour Market Institutions

Unlike other countries, Australia's industrial relations system has typically provided a number of minimum wages in 'award agreements' covering various occupations and industries.[2] The minimum wages set in Australia appear to be among the highest in the world (Waring and Burgess, 2011) leading to a wage distribution that is more compressed than in countries such as the United States, the United Kingdom and Canada (Gornick and Jacobs, 1996). This low level of overall wage dispersion implies that any part-time/full-time wage differential in Australia will be smaller than those found elsewhere. Yet the evidence from Booth and Wood (2008) suggests it is larger.

The number of Australian workers hired on a casual basis has been growing, and currently casual workers account for approximately 25 per cent of employed people (Campbell, 2004). The ABS defines casual work as employment in which the worker does not have access to paid annual leave or paid sick leave. Casual workers may also lack other rights, such as notice of dismissal, and receive lower benefits, such as employer-provided contributions to superannuation. Industrial law requires casual workers be paid a 25 per cent loading on the relevant minimum wage in compensation for lack of such entitlements (Campbell, 2004, p.93).[3] Of course, workers – casual or otherwise – can be paid a wage rate above the legal

[2] Minimum wages have remained a key feature of wage-setting procedures in Australia despite many changes to the industrial relations system over the past decade, the most notable being the introduction of the Work Choices legislation in 2006, which attempted to decentralise wage bargaining and reduce award coverage, and its replacement in 2009 with the Fair Work Act.

[3] See Fair Work Australia, Miscellaneous Award 2010 (s.10.4).

minimum, in which case the effect of the loading will be reduced and may be eliminated altogether. Nevertheless casual employment provides a reason to expect a part-time wage premium because a larger percentage of part-time than full-time workers are employed on a casual basis and therefore qualify for the casual loading (ABS, 6105). Consequently, casual status should be held constant when estimating the part-time/full-time wage differential.

High effective marginal tax rates for a second income earner in a family also provide a reason to expect a part-time wage premium in Australia. If a second income is earned, a family may no longer be eligible for certain tax exemptions and social programs such as the Family Tax Benefit, thereby increasing the effective tax rate. Employers who want to hire part-time workers will need to pay them a premium to compensate for the high effective marginal tax rate (Booth and Wood, 2008). Therefore, a control for marital status should be used when estimating part-time/full-time wage differentials.

In Australia, certain industrial awards specify that all workers in a given industry be paid penalty rates for working outside of normal hours, such as evenings, weekends and public holidays.[4] Both part-time and full-time workers can receive penalty rates, but if they are more common for one group than the other, this will give rise to a part-time/full-time wage differential. Hence the need to control for working a standard versus nonstandard work schedule in estimating part-time/full-time wage differentials.

Unpaid overtime, which is common in Australia (Wooden, 2001), is another factor that might contribute to a part-time wage premium. Individuals who work long hours each week for a constant weekly salary will have a calculated hourly wage (usual weekly wages and salaries divided by hours usually worked per week) that is lower than the hourly wage in their

[4] See http://www.fwa.gov.au/index.cfm?pagename=awardsfind

employment contracts. Salaried individuals may work long hours at certain stages of their careers, on the expectation of being rewarded by promotion later on. High levels of unpaid overtime may also be worked by individuals who simply enjoy their jobs (Hirsch, 2005).

Unpaid overtime is likely to be more commonly observed among full-time workers than part-time workers for two reasons. Firstly, many part-time workers intentionally choose to work less than 35 hours per week so they can engage in family-related activities. These people are less likely than full-time workers to work more than the hours contracted. Secondly, people employed on part-time contracts who regularly work a lot of overtime, are likely to be classified as full-time based on the hours they report usually working per week. If indeed unpaid overtime is more common for full-time than part-time workers, it could produce a part-time wage premium. This is particularly important for Australian studies since the upward trend in unpaid overtime appears to be more widespread in Australia than in other OECD countries (Campbell, 2007).

In summary, the Australian labour market has features that imply part-time/full-time wage differentials will exist and many suggest a premium, rather than a penalty.

III. Literature Review

Cross-Sectional Studies

Most studies based on cross-sectional data have found an adjusted part-time wage penalty. Early cross-sectional studies using United States data, such as Owen (1978) and Long and Jones (1981), found adjusted part-time wage penalties in excess of ten per cent after controlling for various worker and job characteristics, but not for self-selection into part-time work. From the mid 1980s, studies corrected for self-selection bias using a Heckman-type correction procedure (Heckman, 1979). Typically, they also found significant part-time wage penalties (Simpson, 1986; Main, 1988; Ermish and Wright, 1993).

In an influential study, Blank (1990) found part-time wage penalties in the United States of about 20 per cent when traditional cross-sectional techniques were used but after controlling for self-selection into the labour force and into part-time or full-time work, she found a small part-time wage premium for women. In other words, the part-time wage penalty found without correcting for selection was reflecting negative effects on the wage rate of unobservable characteristics of workers who were employed part-time. This interpretation was reinforced by the finding that women who were involuntarily employed part-time were paid a lower wage than those who were voluntarily employed part-time, other things equal. On the other hand, men in Blank's study continued to receive a modest part-time wage penalty even after selection into employment type was taken into account.

Rodgers (2004) used cross section data to estimate part-time/full-time wage differentials for Australian men and women. After controlling for worker and job attributes, and self-selection into non-employment, part-time and full-time employment, the author found part-time wage premiums of nine and three per cent for women and men, respectively. However, neither premium was statistically significant.

There have also been studies of specific occupations. Most found part-time wage penalties (Montgomery and Cosgrove, 1995; Lettau, 1997; Manning and Petrongolo, 2008), but one found a small part-time wage premium (Hirsch and Schumacher, 1995). The three studies from the 1990s also investigated the receipt of fringe benefits, such as medical insurance, life insurance and retirement benefits, by full-time and part-time workers and found that part-time workers had lower total compensation than equivalent full-time workers.

There have been two cross-national comparisons of part-time/full-time wage differentials, both based on cross-sectional data from the Luxemburg Income Survey (LIS). Gornick and Jacobs (1996) estimated part-time/full-time wage differentials for the United States, the United Kingdom, Canada and Australia. After controlling for age, education,

occupation and industry, they found part-time wage penalties for both genders in all countries, with the exception of men in the United Kingdom. Bardasi and Gornick (2008), after adjusting for observed worker and job characteristics, found part-time wage penalties for women in Canada, Germany, Italy, the United Kingdom and the United States but not Sweden.

Longitudinal Studies

More recent studies have used longitudinal data and have found either small part-time wage premiums, no significant part-time/full-time wage differentials or small part-time wage penalties. This is probably because panel data allow for more effective control of unobservable characteristics than does the Heckman correction for self-selection into part-time employment. In other words, the part-time penalties reported in cross- sectional studies are at least partially due to the effect of unobservable, time-invariant, worker characteristics.

In the United States, Hirsh (2005) used panel data from the Current Population Survey (CPS) Outgoing Rotation Group (ORG) to examine possible asymmetries of moving between full-time to part-time work. For women, he found a premium for changing from full-time to part-time work that was larger in magnitude than the penalty suffered by changing from part-time to full-time work, although both were small (less than two per cent). The reverse was true for men; they were found to experience a small (0.6 per cent) premium for changing to part-time work and a larger (two per cent) penalty for changing to full-time work. On the other hand, Hirsch found part-time wage penalties of around five per cent for workers changing occupation and industry at the same time as changing their part-time/full-time status. Unlike British studies that focus on the lack of availability of part-time work in highly paid industries/occupations, Hirsch (2005) suggests that the wage differential reflects workers moving out of career jobs.

In the United Kingdom, Connolly and Gregory (2009) used the New Earnings Panel to estimate part-time/full-time wage differentials for women and to assess their respective wage

growth over time. When the only controls were work experience and job tenure the authors found a part-time wage penalty of 11 per cent but this fell to just two per cent when controls for work experience and tenure were broken down into their part-time and full-time components, and then further broken down according to high, medium and low skilled occupations. The authors also explored possible asymmetries between the effect of moving from full-time to part-time work and the reverse transition. A move from full-time to part-time work was found to be associated with an immediate wage penalty of seven per cent. The penalty continued for four years, but became smaller each year. Furthermore, the penalty for switching to part-time work was brought about by an occupational downgrading and/or a change of employer, rather than by the part-time nature of the job. On the other hand, women switching from part-time to full-time employment earned a premium, but only after the first year of full-time employment. Furthermore, the premium was smaller than the penalty for moving to part-time work.

Booth and Wood (2008) used longitudinal data from the first four waves of the Household, Income and Labour Dynamics in Australia (HILDA) Survey to control for unobserved heterogeneity. They found that part-time women who were not on casual contracts earned approximately ten per cent more per hour than their full-time counterparts and this increased to a 15 per cent premium for women who were part-time and casual. In contrast, part-time, non-casual men earned a 15 per cent premium over comparable full-time men, but this premium decreased to ten per cent for men who were part-time and casual. Therefore, part-time wage premiums appear to be much higher for both men and women in Australia than in the United States and the United Kingdom. The authors conducted several robustness tests and explored the potential for asymmetric wage effects of moving between full-time and part-time employment. Consistent with their primary results, they found moving into part-time work resulted in a pay increase, while moving out of part-time work was associated with a pay decrease.

In summary, the current literature indicates a large, part-time wage premium exists in Australia, a result that appears to be unique. The magnitude and nature of the part-time premium is the focus of the analysis in the remainder of this paper.

IV. The Data

This study estimates full-time/part-time wage differentials using a ten-year panel of unit-record data from Release 10 of the HILDA Survey[5], which began in 2001 with a complex random sample of 7,682 Australian households containing 19,914 people. These original sample members, children later born to or adopted by them, people who later marry and have a child with one of them, and (since Wave 9) new immigrants to Australia who join their households, are called continuing sample members and they remain in the sample indefinitely. Other people who share a household with a continuing sample member are called temporary sample members and they remain in the sample for as long as they cohabit with a continuing sample member (Watson 2011, p.113). People aged 15 years and older are interviewed each year and contribute data on family and household characteristics, income and work. In the first wave, 13,969 adults provided this information; by the tenth wave the number was 13,526. These responding people constitute the unbalanced panel used in this study.

The HILDA data have several major advantages for this study compared with other Australian data sets. First, the data allow an estimate of each employee's usual hourly wage in his or her main job, which is the job from which the most pay is usually received each week. Usual, weekly, gross wages and salary in the main job, adjusted for inflation using the consumer price index, was divided by hours per week usually worked in the main job. Hours and wages and salary are recorded as continuous variables. Usual hours of work include paid

[5] The HILDA Project was initiated and is funded by the Australian Government Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) and is managed by the Melbourne Institute of Applied Economic and Social Research (Melbourne Institute). The findings and views reported in this paper, however, are those of the authors and should not be attributed to either FaHCSIA or the Melbourne Institute. A detailed discussion of the HILDA survey can be found in Wooden and Watson (2007).

and unpaid overtime as well as work done at the workplace and at home. The use of *usual* gross earnings and *usual* hours of work is preferred to gross earnings and hours of work in the week prior to the interview, which may be an atypical week for the worker. As in previous Australian studies, in this paper a part-time worker is defined as someone who usually works less than 35 hours per week in his or her main job. This differs from the standard ABS definition of a part-time worker as an employed person who usually works less than 35 hours per week in *all* jobs and who worked less than 35 hours during the reference week of the survey in which data were collected. We use hours of work in the main job because we are interested in the nature of part-time jobs.

Second, casual employees, who receive neither paid holiday leave nor paid sick leave, can be identified in the HILDA data. As mentioned earlier, these people typically receive a 25 per cent 'casual loading' on the minimum wage stated in the relevant industrial award.

Third, the HILDA data distinguish wage and salary earners who are not self employed from persons who work in their own incorporated enterprise and pay themselves a wage or salary. The former are the focus of this study because the suggestion that part-time workers are poorly paid applies to employees, not to the self-employed. In most ABS unit-record data sets, the term 'employees' covers both groups and consequently the numerous self-employed who do not pay themselves holiday or sick leave are misleadingly classified as casual employees. In this paper, 'employees' are people who work for someone else.

The final advantage of the HILDA data set is that it provides a considerable amount of demographic data on employed persons, such as age, sex, marital status, education and job tenure. There are also data on the attributes of respondents' jobs, such as type of work schedule, occupation, industry, workplace size and whether in the public or private sector.

The HILDA data also have some shortcomings for the purpose of this study, the major one being that it does not record hours worked overtime, whether paid or unpaid. The consequences of this for calculating the hourly wage has already been discussed. The second deficiency of the HILDA data is that work experience, which is reported as years in paid work, makes no distinction between full-time and part-time work experience. This is likely to lead to an understatement of the full-time/part-time wage differential. This would be of concern if a part-time penalty had been found, as its size would have been overstated. But in Australia a part-time premium has been found, and it is likely to be an understatement.

V. Descriptive Statistics

We applied the same exclusions as Booth and Wood (2008): individuals must be employees, aged 18 to 64 years, not full-time students, not in the armed forces, not farmers, not fisher-men or women; they must work less than 100 hours per week and earn an hourly wage of at least one dollar. The sample consists of people who satisfy these conditions in at least two consecutive waves of HILDA data, thereby ensuring that the wage differentials in the data are due to changes in usual weekly remuneration and hours of work, rather than to any deterioration in human capital associated with a substantial break in employment. This produced a sample of 4,501 men with 24,701 observations (2,145 part-time and 22,556 full-time) and 4,591 women with 24,477 observations (10,406 part-time and 14,071 full-time).

Descriptive statistics are presented in Table 1. They show that average hourly wages are lower for part-time men and women than for their full-time counterparts but the differential is statistically significant for men only. We also see that part-time and full-time employees are systematically different, suggesting that at least part of the raw part-time pay penalty can be attributed to differences in the observable (productivity-related) characteristics of the two groups and the attributes of the jobs they hold.

Part-time men and women are more likely to be employed on a casual basis than full-time employees. Full-time men and women are more likely to hold only one job, and are more likely to work a regular day-time schedule, than part-time employees. Part-time women are also less likely to be employed on a fixed-term contract than full-time women, but there is no significant difference for men. Part-time men are more likely than full-time men to be employed through a labour-hire firm, but there is no significant difference for women. Full-time men are more likely to be married than part-time men, but part-time women are more likely to be married than full-time women. Full-time employees have longer average tenure with the current employer than part-time employees, especially for men. However, there is no significant difference between part-time and full-time employees, men or women, in labour-market experience although, as already pointed out, the metric contained in HILDA does not distinguish between years of full-time and years of part-time work experience. In line with human capital theory, full-time employees have higher average levels of education than part-time employees. However, these outcomes are more statistically significant for women than for men. Full-time employees are more likely to belong to a trade union and to work for a large firm than part-time employees. Full-time women are more likely to be employed in the public sector than part-time women but there is no significant difference for men.

To identify the effect of employment status on wage rates using longitudinal data there must be a reasonable number of changes in status between adjacent years. Table 2 presents transition matrices for the men and women where the off-diagonal entries show the number of observations involving a change of status. For example, there were 122 observations of men who changed from full-time, casual employment to part-time, casual employment; women were observed to change from full-time, casual employment to part-time, casual employment 138 times. Compared with the data used by Booth and Wood (2008), our data show many more transitions, particularly for men. Notably, where there is no distinction between moving into a

particular employment status and moving out of it, the smallest number of transitions in our data set is (22+23=) 45 for men, and (44+42=) 86 for women, who move between part-time-non-casual and full-time-casual employment. The corresponding numbers in Booth and Wood's (2008) study were 17 and 24.

VI. Results

Model (1)

First, we replicate Booth and Wood's (2008) results using the following reduced-form equation, which is estimated separately for men and women using pooled OLS and fixed-effects, both with clustered standard errors, which are robust to both heteroskedasticity and correlation over time for the same individual:

$$\log(wage_{i,t}) = \beta_1 P_{i,t} + \beta_2 C_{i,t} + \beta_3 (P*C)_{i,t} + X_{it}\gamma + \mu_i + \varepsilon_{i,t} \quad (1)$$

where $P_{i,t}$ is a binary variable equal to one if person i is employed part-time in year t; $C_{i,t}$ equals one if person i is employed on a casual contract in year t (zero otherwise); $(P*C)_{i,t}$ is the interaction between part-time and casual status; $X_{i,t}$ is a set of observed characteristics of employee i and his or her job in year t (including an intercept); μ_i represents unobserved time-invariant attributes of employees; and $\varepsilon_{i,t}$ is an idiosyncratic error. The population of interest is employed persons[6] and the parameters of interest are β_1, which is the average log-wage differential between part-time, non-casual workers and full-time, non-casual workers, and $\beta_1 + \beta_3$, which is the average log-wage differential between part-time, casual workers and full-time, casual workers. Five specifications of Model (1), the same ones reported by Booth and Wood (2008), were estimated.

[6] We do not model selection into employment so our results apply to employed persons, rather than people in the labour force or the adult population as a whole.

In the first specification $X_{i,t}$ includes only dummy variables for (all but one of) the years covered by the longitudinal data and provides an estimate of the raw part-time/full-time wage differentials for men and women. Specification 2 includes additional binary variables for holding a single job, whether the main job involves a regular day-time schedule, is a fixed-term contract, and was acquired through a labour-hire firm. Also included are the individual's country of birth, age, marital status and geographic location. Education and quadratics for job tenure and employment experience are added to form Specification 3. Workplace size, union membership, public/private sector, and industry are appended to form Specification 4 and occupation is added to form Specification 5. After deleting observations with missing data on one or more of these control variables, the sample used to estimate all specifications of Booth and Wood's model contains 4,243 men with 23,506 observations (2,040 part-time and 21,466 full-time) and 4,338 women with 23,320 observations (9,964 part-time and 13,356 full-time).

Part-time/full-time wage differentials for non-casual and casual men and women in each of the five specifications of Model (1) are presented in Table 3. Full results appear in the appendix. The significance of each differential is indicated by the number of asterisks alongside the coefficient. The significance of the difference between the differentials for non-casual and casual employees is indicated by the number of asterisks, or the symbol n.s. (non-significant) on the line between the two coefficients. In only one case is there a significant difference between the part-time/full-time wage differentials of non-casuals and casuals, namely for the pooled OLS estimates of Specification 2 for women. This should be kept in mind as the results are interpreted below.

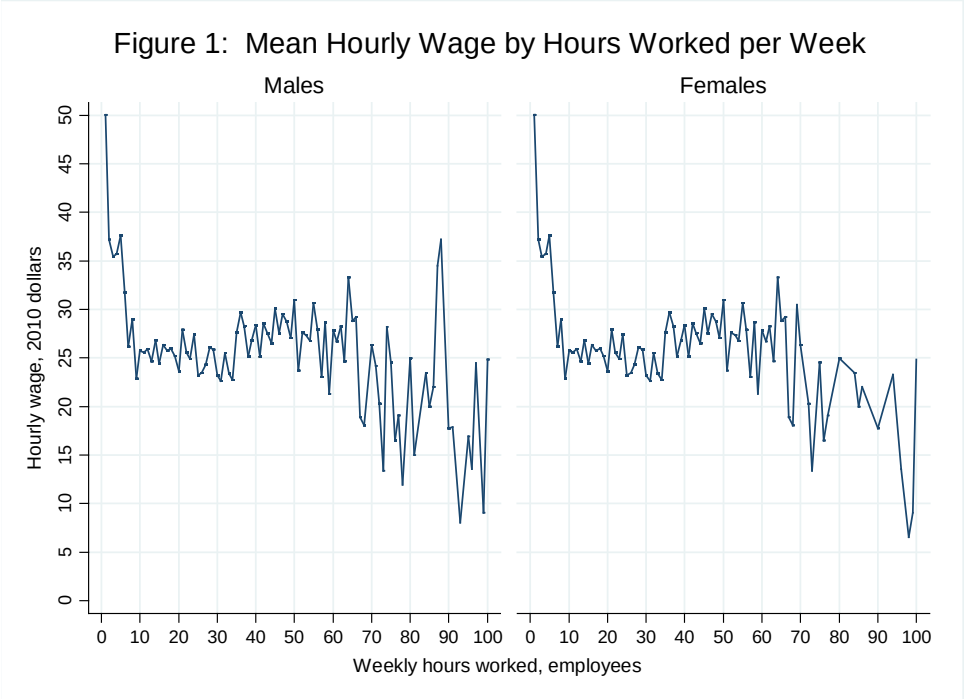
The pooled OLS results change considerably as more and more controls are included in the model. There is a part-time wage penalty for non-casual men of 15 per cent in Specification 1 and 11 per cent in Specification 3 but the penalty is small and non-significant in Specifications 4 and 5. For men on casual contracts, the results are similar. The pooled OLS

results for women show two significant coefficients, namely in Specification 2, where there is a five per cent part-time wage penalty for non-casual women, and in Specification 5, where there is about a four per cent part-time wage premium for both casual and non-casual women.

In contrast to the pooled OLS results, those from the fixed-effects model are remarkably stable across all five specifications. The specification preferred by Booth and Wood (2008), Specification 3, indicates that for people who are not employed on casual contracts there is a statistically significant part-time wage premium of 16 per cent for men and 11 per cent for women. For casual workers, the part-time wage premium is 12 per cent for men and 13 per cent for women, both of which are statistically significant. These results are very similar to those found by Booth and Wood (2008). The difference between the OLS and fixed-effects results indicates that part-time employees have unobservable characteristics that are negatively correlated with productivity. If no part-time/full-time wage differential had been found in the fixed-effects model, we might have been satisfied with this explanation. But given the large premium produced by fixed-effects, attributing it to unobservables is less than enlightening. To explore the phenomenon further, we conduct some sensitivity tests.

Sensitivity Tests on Model (1)

A graph of the average hourly wage against weekly hours of work (Figure 1) reveals that the highest wage rates, for both men and women occur at fewer than ten hours per week, while the lowest wage rates are for people working more than 70 hours per week. To test whether the observed part-time premiums are being driven by these extreme observations, Specification 3 of the fixed-effects model was re-estimated after dropping 1,098 observations with weekly hours of work below ten and 339 observations with weekly work hours in excess of 70. Another 190 observations with an hourly wage less than five dollars or greater than 160 dollars were also dropped as they seem likely to contain errors.



The results, which appear in Panel A of Table 4, indicate a small reduction of two percentage points to 14 per cent in the part-time wage premium for non-casual men and a reduction of five percentage points to seven per cent for casual men when the outliers were excluded. For non-casual women the part-time wage premium is reduced by one percentage point to ten per cent, while for casual women the premium falls five percentage points to eight per cent when the outliers were dropped. Therefore, outliers explain some of the part-time premium for men and women, but only those on casual contracts.

Next, we investigate whether the premium is sensitive to the 35-hour cut-off. If the premium is earned primarily by people who work just less than 35 hours per week then changing the definition of what constitutes part-time employment is likely to change the results substantially. Specification 3 of the fixed-effects model was re-estimated with the single part-time binary variable replaced by eight dummy variables that divide weekly hours of work into

nine ranges.[7] The base category is 35-40 hours per week, which is the range stipulated in most full-time employment contracts.

Panel B of Table 4 shows the wage differentials for people in each of the eight hours categories. First, there is no statistically significant wage differential between people working 30 to 35 hours per week and people working 35-40 hours per week, so lowering the cut-off to 30 hours would have little effect on the size of the part-time premium. However, compared with their counterparts working 35 to 40 hours per week, there is a significant wage premium for non-casual men and women working less than 30 hours per week, and the premium increases as weekly hours of work decrease. There is also a significant wage penalty for non-casual men and women working more than 40 hours per week which increases as weekly work hours increase. The results are similar for casual men and women, although a significant premium is only observed below 25 hours per week and a significant penalty is observed only above 45 hours per week. From this, we conclude that the premium for part-time employment is not an artefact of how part-time employment is defined.

Men tend to work part time when they are either young or old, whereas women tend to work part-time when they are middle aged. To test whether the part-time wage premium is concentrated in particular age groups we re-estimated Specification 3 of the fixed-effects model separately for men and women in three age groups: younger than 30 years, between 30 and 50 years inclusive, and older than 50 years. The results are given in Table 5. There is a statistically significant part-time wage premium in all cases except for middle-aged men employed on casual contracts. For young men, the premium is 19 per cent among non-casuals and significantly smaller at 7.5 per cent for casuals. For middle-age, non-casual men and older men the premium is approximately 12 per cent. For women, the premium is approximately the same (ten per cent) for all age groups, and is significantly different from zero for both casuals

[7] The 1,627 outliers were also excluded from the estimation process.

and non-casuals. Therefore, age throws no light upon the nature of the part-time wage premium for women but for men the premium is somewhat related to age and casual status.

Occupational segregation of part-time and full-time workers has been put forward in some studies as an explanation of part-time penalties, especially in Britain (Manning and Petrongolo, 2008; Connolly and Gregory, 2009). Perhaps in Australia also, the part-time premium is driven by large part-time premiums in particular occupations. This theory is tested by using fixed effects to estimate the part-time/full-time wage differential separately for four occupational categories.[8] The results are reported in Panel A of Table 6. We find little variation in the premium across occupations: for non-casual men it ranges from 11.5 to 15.5 per cent, and for non-casual women the range is 9.4 to 12.0 per cent. The premium is also fairly constant for casual workers, although lower than for non-casuals, ranging from 5.6 to 8.3 per cent for men and 6.9 to 9.1 per cent for women. We also investigated the variability of the premium across industries by estimating the part-time/full-time wage differential separately for eight industry groups (see Panel B of Table 6). We found a premium for part-time work in all industries, ranging from 13.0 to 15.9 per cent for non-casual men and from 8.9 to 11.2 per cent for non-casual women. For casual workers the premium is a little smaller at approximately six to nine per cent for men and seven to nine per cent for women.

The sensitivity tests throw only a little light on why there is a part-time wage premium. After excluding outlying observations the premium remains pervasive throughout the labour market and, despite the loading received by many casual workers in compensation for lack of paid leave, the premium is *higher* among non-casual workers than among casual workers!

[8] Observations not consistent with each category were dropped, which is equivalent to interacting occupation with all the variables in Specification 3. The 1,627 outliers on extreme work hours and low wage rates were also excluded from the estimation process.

Model 2

Model (1) assumes that the effect on wages of changing into, and out of, part-time jobs is symmetric, as is the effect of changing into, and out of, casual jobs. These assumptions are relaxed in the following pair of difference-in-differences models.

$$\Delta \log(wage_{i,t-1/t}) = \beta_1^a Pleaver_{i,t-1/t} + \beta_2^a Cstayer_{i,t-1/t} + \beta_3^a Cleaver_{i,t-1/t} + \beta_4^a Cjoiner_{i,t-1/t} + \Delta X_{it-1/t}\gamma^a + \Delta \varepsilon^a_{i,t-1/t} \quad (2a)$$

$$\Delta \log(wage_{i,t-1/t}) = \beta_1^b Pjoiner_{i,t-1/t} + \beta_2^b Cstayer_{i,t-1/t} + \beta_3^b Cleaver_{i,t-1/t} + \beta_4^b Cjoiner_{i,t-1/t} + \Delta X_{it-1/t}\gamma^b + \Delta \varepsilon^b_{i,t-1/t} \quad (2b)$$

Equation (2a) is estimated using only those observations where the individual works part time in year t-1 (part-time starters) and Equation (2b) is estimated using only those observations where the individual works full-time in year t-1 (full-time starters). Part-time starters are divided into part-time stayers, who work part-time in year t, and part-time leavers (*Pleaver*), who work full-time in year t. Full-time starters are divided into full-time stayers, who work full-time in year t, and part-time joiners (*Pjoiner*), who work part-time in year t. Casual stayers (*Cstayer*) are casual in both years t-1 and t; casual leavers (*Cleaver*) are casual in year t-1 and non-casual in year t; casual joiners (*Cjoiner*) are non-casual in year t-1 and casual in year t. The base group for Equation (2a) consists of people who are part-time and non-casual in both periods. The base group for Equation (2b) consists of people who are full-time and non-casual in both periods. Estimation is performed using OLS, with clustered standard errors. We also use fixed effects, which allows for unobserved heterogeneity in wage growth.

The difference-in-difference models were estimated with outliers specified in Panel A of Table 4 excluded. We also modified the explanatory variables, dropping those that showed little variation 'within' employees and simplifying others. The resulting set of variables controlled for moving between single and multiple jobs, standard and non-standard work schedules, fixed and other types of employment contract, as well as two controls for getting a

partner and losing a partner, and four controls for obtaining a higher level of educational qualification (post-graduate, an undergraduate, a diploma/trade certificate, and Year 12). We also controlled for joining/leaving a union, moving between public- and private-sector jobs, changing between jobs with and without supervisory duties, and two controls for switching to a job with a small firm and to a job with a large firm.

The results of estimating Model (2) are given in Table 7. Pooled OLS on first differences controls for unobserved heterogeneity in wage levels, fixed effects on first differences also controls for unobserved heterogeneity on wage growth. In many cases the results produced by the two methods are similar. They show that, other things equal, moving into part-time employment is associated with wage gain and moving out of part-time employment is associated with a wage loss. Contemporaneous changes in casual status, in many cases, have no significant effect on the hourly wage. However, changing from non-casual to casual reinforces a wage gain. For men it also reinforces a wage loss but for women it reduces a wage loss. Changing from casual to non-casual reduces a wage gain but increases a wage loss for both men and women.

Panel A of Table 7 shows that, on average, non-casual, male employees experience an increase in their hourly wage of about 12 per cent when they move into part-time employment and a wage decrease of 16 to 19 per cent when they move into full-time employment. The hourly wage of non-casual, female employees increases by 14 per cent for women when they begin to work part-time and it decreases by 13 to 15 per cent when they change to full-time work.

Panel B of the table shows that the premium for changing to part-time work, and the penalty for changing to full-time work, are both smaller in magnitude when there is a contemporaneous change of employer. For example, men who change to part-time employment with no change of employer experience an increase in their wage of 17 to 19 per cent; if there

is a concurrent change of employer the increase is five to eight per cent. Men who change to full-time employment with no change of employer experience a decrease in their wage of 18 to 22 per cent, but with a change of employer the decrease is eight to ten per cent. With a couple of exceptions, the same result is observed when there is a simultaneous change of industry (Panel C) and when there is a simultaneous change of occupation (Panel D). This suggests that the observed premium for part-time work is partially related to changing job contracts with the same employer. Nevertheless, all but one of the effects of changing part-time/full-time employment status in Table 7 are significantly different from zero according to either pooled OLS or fixed effects (or both), the exception being males who switch from full-time to part-time employment in a new industry.

Model 3

Finally, we extend the analysis by investigating the short-run and long-run effects of changing employment status using two versions of a distributed-lag model, one for part-time starters and the other for full-time starters:

$$\log(wage_{i,t}) = X_{i,t}^{'}\gamma^{a} + \beta_0^a F_{i,t} + \beta_1^a F_{i,t-1} + \beta_2^a F_{i,t-2} + \gamma_0^a C_{i,t} + \gamma_1^a C_{i,t-1} + \gamma_2^a C_{i,t-2} + \mu_i^a + \varepsilon_{i,t}^a \quad (3a)$$

$$\log(wage_{i,t}) = X_{i,t}^{'}\gamma^{b} + \beta_0^b P_{i,t} + \beta_1^b P_{i,t-1} + \beta_2^b P_{i,t-2} + \gamma_0^a C_{i,t} + \gamma_1^a C_{i,t-1} + \gamma_2^a C_{i,t-2} + \mu_i^b + \varepsilon_{i,t}^b \quad (3b)$$

where *F*, *P* and *C* indicate full-time, part-time and casual status, respectively. Both equations were estimated using OLS and fixed effects. Equation (3a) is estimated using people who are part-time when first observed but change to full-time employment in a later period plus a control group consisting of people who remain in part-time employment in all years. Equation (3b) is estimated using people who are full-time initially but change to part-time employment in a later period plus people who remain in full-time employment in all years. The hypothesis is that the short-term impact of changing part-time/full-time employment status (β_0) will be eroded over time and the long-term impact ($\beta_0 + \beta_1 + \beta_2$) will be close to zero.

The groups classified as part-time starters and full-time starters are refined to better identify the effect of changing employment status. At least 6 consecutive observations are required on each individual, of which the first four must be either all part-time (Equation 3a) or all full-time (Equation 3b). Observations 1, 2 and 3 are not used because they could be affected by a change of status between Observation 1 and the previous, unobserved time period. Observations 4, 5 and 6 are used, along with any additional observations so long as there is no more than one change of part-time/full-time status.[9]

The distributed lag model shows the effect of changing employment status over a three-year period. The explanatory variables are age, experience and tenure with the firm, as well as dummies for holding a single job, working a standard schedule, holding a fixed employment contract, finding work through a labour-hire firm, belonging to a union, working in the public sector, supervising others, working in a small firm and working in a large firm. There were also two controls for marital status and four controls for educational qualifications.

The results of estimating Model (3) are given in Table 8. For men who were initially observed in full-time employment the results are non-significant, probably because only 49 men were in this category and only nine changed to part-time employment. There were 1,450 male, part-time starters so we have more confidence in their results. However, we found no statistically significant effect of changing to full-time employment, contemporaneously, or after one or two years.

The fixed-effects results for the 720 women who were initially observed in full-time employment indicate a statistically significant premium of 8.3 per cent at the time of changing to part-time employment. After one year the premium is still significant and has risen to 12.6 per cent but after two years it has fallen to 8.6 per cent and is not significant. For the 452

[9] Observations 4 and 5 will be dropped during estimation because part-time/full-time status in year t-1 and/or year t-2 will be missing. Given 10 waves of panel data the maximum number of consecutive observations that contribute to the estimation of the partial effects is five and the minimum number is one.

women who started in part-time employment, there is an immediate penalty of 11.6 per cent for changing to full-time employment, but after one year the penalty is reduced to about six per cent and is non-significant. These results suggest that the premium for part-time employment is being driven by favourable wage outcomes at the time, or just after, the change to part-time employment takes place but that the outcome is not sustained. Similarly, unfavourable wage outcomes at the time of a switch to full-time employment seem to fade away with time.

VII. Concluding Remarks

The only previous longitudinal study of the full-time/part-time wage differential in Australia found a 15 per cent part-time wage premium for men and a ten per cent part-time wage premium for women, a result that is at odds with studies from other countries. We have verified the results of the earlier study using ten, rather than four, years of longitudinal data and found a 16 per cent part-time wage premium for men and an 11 per cent part-time wage premium for women. We then proceeded to investigate the nature of the Australian premium.

We found that both casual and non-casual employees receive a part-time wage premium so the premium does not result from the fact that many part-time employees are on casual employment contracts and are eligible for a loading to compensate for not receiving (paid) sick leave and holiday leave. Nor is the premium a result of outliers. With weekly hours of work restricted to a range of 10-70 and the hourly wage restricted to $5 -$159, part-time premiums of 14 and ten per cent for non-casual men and women, respectively, and seven and eight per cent for casual men and women, respectively, persist. Furthermore, the premium is not an artefact of how part-time employment is defined: compared with men and women working 35-40 hours per week, there is a wage premium for people working less than 30 hours per week which increases as weekly work hours decrease; there is also a wage penalty for people working more than 40 hours per week and the penalty increases as weekly work hours increase.

The part-time wage premium applies to most age groups. There is no wage differential for men aged 30-50 years who are employed on casual contracts but among men younger than 30 years who are not on casual contracts the premium is 19 per cent. The premium for other men is about 12 per cent. A statistically significant premium is about 11 per cent was found for women of all age groups. We also found a statistically significant part-time wage premium for men and women, casual and non-casual, in all occupations and all industries, although within occupations and industries the premium is higher among non-casuals than among casuals.

Using difference-in-difference models we found that, for both men and women, substantial hourly wage increases occur when moving from full-time to part-time employment and equally large hourly wage reductions occur when moving from part-time to full-time employment. In most cases, the magnitude of the change is smaller when there is an accompanying change of employer, industry or occupation. self-selection

Finally, we investigated the short-run and longer-run effects of changing between part-time and full-time employment using a distributed-lag model, estimated with a more refined sample of people. The results for men were inconclusive but for women we found evidence that the contemporaneous effect on the wage of moving into, or out of, part-time employment is not sustained beyond one, or at most two, years.

As a result of this study, we have been able to rule out some explanations of Australia's part-time wage premium, but we do not have a convincing reason for its existence. There is evidence that the premium is related to whether or not a change from full-time to part-time employment (or *vice versa*) occurs without a change of employer. This could be related to unpaid overtime, but we have not been able to pursue this possibility because normal and overtime hours are not distinguished in the HILDA data. We note that the one study that found a part-time wage penalty with longitudinal data, Connolly and Gregory (2009), used contracted hours of work to calculate the hourly wage, whereas in our study the hourly wage equals usual

weekly wages and salary divided by weekly hours usually worked. A second possible explanation for the premium is that full-time employees receive fringe benefits not received by part-time employees. Unfortunately, fringe benefits are reported only in the last wave of HILDA data, so we are unable to pursue this possibility either. Clearly, there is room for further research into Australia's premium for part-time work, or to put it another way, its penalty for full-time work.

References

Australian Bureau of Statistics (2012). *Australian Labour Market Statistics*. Canberra, ABS. Cat. No. 6105.0.

Australian Bureau of Statistics (2012). *Labour Force*. Canberra, ABS. Cat. No. 6202.0.

Bardasi, E. & Gornick, J. C. (2008). "Working for Less? Women's Part-Time Wage Penalties Across Countries." *Feminist Economics*. 14(1): 37-72.

Blank, R. (1990). "Are Part-Time Jobs Bad Jobs?" in Gary Burtless (Ed.), *A Future of Lousy Jobs?* The Brookings Institute, Washington D.C.

Booth, A. & Ravallion, M. (1993). "Employment and Length of the Working Week in a Unionized Economy in which Hours of Work Influence Productivity." *Economic Record*. 69(207): 428-428.

Booth, A. L. and Wood, M. (2008). "Back-to-Front Down Under? Part-Time/Full-Time Wage Differentials in Australia." *Industrial Relations: A Journal of Economy and Society* 47(1): 114-135.

Campbell, I. (2004). "Casual Work and Casualisation: How does Australia Compare?" *Labour and Industry: a Journal of the Social and Economic Relations of Work*. 15(2): 85.

Campbell, I. (2007). "Long Working Hours in Australia: Working-time Regulation and Employer Pressures. " *Economic and Labour Relations Review* 17(2): 37-68.

Casey, B., Metcalf, H. & Millward, N. (1997). *Employers' Use of Flexible Labour*. Policy Studies Institute, London.

Connolly, S. and Gregory, M. (2009). "The part-time pay penalty: earnings trajectories of British Women." Oxford Economic Papers 61(suppl 1): i76-i97.

Ermisch, J. F. & Wright, R. E. (1993). "Wage Offers and Full-Time and Part-Time Employment by British Women." *The Journal of Human Resources*. 28(1): 111-133.

Gornick, J. C. & Jacobs, J. A. (1996). "A Cross-National Analysis of the Wages of Part-Time Workers: Evidence from the United States, the United Kingdom, Canada and Australia. " *Work, Employment & Society*. 10(1): 1-27.

Heckman, J. J. (1979). "Sample Selection Bias as a Specification Error." *Econometrica* (pre-1986). 47(1): 153-161.

Hirsch, B. T. (2005). "Why Do Part-Time Workers Earn Less? The Role of Worker and Job Skills." *Industrial and Labor Relations Review* 58(4): 525-551.

Hirsch, B. & Schumacher, E. (1995). "Monopsony Power and Relative wages in the Labor Market for Nurses." *Journal of Health Economics*. 14(4): 443-476.

Hyclak, T., Johnes, G. & Thornton, R. (2005). *Fundamentals of Labor Economics*. Houghton Mifflin Company, Boston.

Lettau, M. K. (1997). "Compensation in Part-Time Jobs Versus Full-Time Jobs. What if the Job is the Same?" *Economics Letters*. 56(1): 101-106.

Long, J. E. & Jones, E. B. (1981). "Married Women in Part-Time Employment." *Industrial and Labor Relations Review*. 34(3): 413-425.

Main, B. G. M. (1988). "Hourly Earnings of Female Part-Time versus Full-Time Employees." *The Manchester School of Economic and Social Studies*. 56(4): 331-344.

Manning, A. & Petrongolo, B. (2008). "The Part-Time Pay Penalty for Women in Britain." *The Economic Journal*. 118(526): F28-F51.

Montgomery, M. & Cosgrove, J. (1995). "Are Part-time Women Paid Less? A Model with Firm-Specific Effects." *Economic Inquiry*. 33(1): 119-133.

Organization for Economic Cooperation and Development (2012) *Employment and Labour Markets: Key tables from OECD* - ISSN 2075-2342 - © OECD 2012.

Owen, J. D. (1978). "Why Part-Time Workers Tend to be in Low-Wage Jobs." *Monthly Labor Review* (pre-1986). 101(6): 11-14.

Rodgers, J. R. (2004). "Hourly Wages of Full-time and Part-time Employees in Australia." *Australian Journal of Labour Economics*. 7(2): 231-254.

Simpson, W. (1986). "Analysis of Part-Time Pay in Canada." *Canadian Journal of Economics*. 19(4): 798-807.

Waring, P. & Burgess, J. (2011). Continuity and Change in the Australian Minimum Wage Setting System: The Legacy of the Commission. *Journal of Industrial Relations*. 53(5): 681-697.

Watson, N., (ed.) (2011). *HILDA User Manual – Release 10*. University of Melbourne.

Wooden, M. (2001). "The Growth in 'Unpaid' Working Time. " *Economic Papers*, 20(1): 29-43.

Wooden, M. and Watson, N. (2007), "The Hilda Survey and Its Contribution to Economic and Social Research (So Far)." *The Economic Record*. 83(261): 208-231.

Table1: Descriptive Statistics for Full-time and Part-time Men and Women

	Men			Women		
Variable	Full-time	Part-time		Full-time	Part-time	
Hourly wage ($)	29.45	25.99	***	25.38	24.90	
Usual hours per week	44.87	22.40	***	41.76	21.25	***
Casual[a]	0.08	0.57	***	0.06	0.40	***
One job only[a]	0.95	0.78	***	0.95	0.85	***
Regular day-time schedule[a]	0.79	0.59	***	0.85	0.72	***
Fixed-term contract[a]	0.09	0.08		0.11	0.08	***
Employed via labour hire firm[a]	0.03	0.05	**	0.02	0.03	
Age (years)	39.11	40.02		39.10	41.82	***
Married[a]	0.56	0.44	***	0.47	0.64	***
Cohabitating[a]	0.13	0.10	*	0.15	0.10	***
Widowed, divorced or separated[a]	0.06	0.06		0.14	0.12	*
Never married[a]	0.25	0.40	***	0.24	0.14	***
Urban location[a]	0.72	0.68		0.75	0.65	***
Inner regional location[a]	0.19	0.23		0.17	0.24	***
Outer regional location[a]	0.08	0.08		0.08	0.09	
Remote location[a]	0.01	0.01		0.01	0.02	
Australian born[a]	0.76	0.78		0.75	0.79	**
Born in other English speaking country[a]	0.10	0.09		0.10	0.09	
Born in a non-English speaking country[a]	0.13	0.13		0.16	0.12	*
Tenure with current employer (yrs)	7.67	4.96	***	7.15	6.22	***
Experience (yrs)	20.58	20.04		18.13	18.78	
Postgraduate degree[a]	0.05	0.04		0.05	0.02	***
Graduate diploma/certificate[a]	0.05	0.07		0.09	0.07	
Bachelor degree[a]	0.15	0.14		0.23	0.15	***
Advanced diploma/diploma[a]	0.09	0.08		0.12	0.10	*
Certificate III or IV[a]	0.29	0.19	***	0.13	0.17	***
Certificate I or II or not defined[a]	0.01	0.02		0.02	0.03	
Year 12[a]	0.16	0.21	*	0.17	0.16	
Year 11 or below[a]	0.19	0.26	**	0.20	0.30	***
Trade union member[a]	0.32	0.27	*	0.33	0.27	***
Public sector job[a]	0.23	0.24		0.35	0.31	*
Firm size <20[a]	0.31	0.41	***	0.26	0.41	***
Firm size 20-99[a]	0.31	0.32		0.35	0.32	
Firm size 100-499[a]	0.24	0.18	***	0.23	0.16	***
Firm size >=500[a]	0.14	0.09	***	0.16	0.11	***
Person-year observations	21,466	2,040		13,356	9,964	

Source: HILDA, Waves 1-10.
Notes: [a] measured as a proportion.
*, ** and *** indicate a difference that is significantly different from zero at the 5, 1 and 0.1 per cent levels.
Means are weighted by cross sectional probability weights.

Table 2: Transition Matrices Showing Changes of Employment Status Between Years

	Men			
Year t → / Year t-1 ↓	Part-time & casual	Part-time & non-casual	Full-time & casual	Full-time & non-casual
Part-time & casual	527	59	145	202
Part-time & non-casual	45	398	23	185
Full-time & casual	122	22	688	507
Full-time & non-casual	143	180	369	15,648

	Women			
Year t → / Year t-1 ↓	Part-time & casual	Part-time & non-casual	Full-time & casual	Full-time & non-casual
Part-time & casual	2,215	484	179	322
Part-time & non-casual	275	3,848	42	704
Full-time & casual	138	44	246	238
Full-time & non-casual	207	660	148	9,232

Source: HILDA, Waves 1-10
Notes: Numbers are unweighted counts of transitions, based on pairs of consecutive waves.

Table 3: Part-Time/Full-Time Wage Differentials Model (1)

		Men				Women			
Spec.	Casual Status	Pooled OLS		Fixed Effects		Pooled OLS		Fixed Effects	
1	Non-casual	-0.147	**	0.142	***	-0.014		0.106	***
			n.s.		n.s.		n.s.		n.s.
	Casual	-0.111	***	0.090	***	0.041		0.127	***
2	Non-casual	-0.127	*	0.147	***	-0.047	**	0.102	***
			n.s.		n.s.		*		n.s.
	Casual	-0.110	***	0.105	***	0.022		0.128	***
3	Non-casual	-0.111	*	0.157	***	-0.004		0.106	***
			n.s.		n.s.		n.s.		n.s.
	Casual	-0.117	***	0.118	***	0.025		0.131	***
4	Non-casual	-0.043		0.158	***	0.019		0.110	***
			n.s.		n.s.		n.s.		n.s.
	Casual	-0.060	*	0.123	***	0.038		0.138	***
5	Non-casual	-0.010		0.160	***	0.041	***	0.113	***
			n.s.		n.s.		n.s.		n.s.
	Casual	-0.046		0.125	***	0.047	*	0.141	***

Source: HILDA, Waves 1-10.
Notes: Standard errors are cluster robust.
*, ** and *** beside a coefficient indicates significantly different from zero at the 5%, 1% and 0.1% levels.
Asterisks or n.s. on the line between coefficients indicates a significant difference, or no significant difference (n.s.), between the PT/FT wage differential for non-casual and casual employees.

Table 4: Sensitivity of the Part-Time/Full-Time Wage Differential to Weekly Hours Worked

	Sensitivity to	Casual Status	Cut-off	Men		Women	
A	Outliers	Non-casuals		0.137	***	0.101	***
	(hours <10 or >70)		35 hrs/wk		*		n.s.
	(wage < $5 or >$160)	Casuals		0.069	**	0.079	***
B	Hours worked per week	Non-casuals		0.250	***	0.173	***
			10-<20 hrs		n.s.		n.s.
		Casuals		0.134	**	0.151	***
		Non-casuals		0.117	***	0.078	***
			20-<25 hrs		n.s.		n.s.
		Casuals		0.074	*	0.063	**
		Non-casuals		0.100	**	0.050	***
			25-<30 hrs		n.s.		n.s.
		Casuals		0.056		0.019	
		Non-casuals		0.030		0.008	
			30-<35 hrs		n.s.		n.s.
		Casuals		0.002		0.014	
		Base	35-40 hrs	-		-	
		Non-casuals		-0.055	***	-0.049	***
			40-<45 hrs		**		*
		Casuals		0.001		0.011	
		Non-casuals		-0.127	***	-0.134	***
			45-<50 hrs		n.s.		n.s.
		Casuals		-0.070	*	-0.157	**
		Non-casuals		-0.194	***	-0.214	***
			50-<60 hrs		**		n.s.
		Casuals		-0.115	***	-0.185	**
		Non-casuals		-0.298	***	-0.358	***
			60-<70 hrs		**		n.s.
		Casuals		-0.155	***	-0.141	

Source: HILDA, Waves 1-10.
Notes: Standard errors are cluster robust.
*, ** and *** beside a coefficient indicates significantly different from zero at the 5%, 1% and 0.1% levels.
Asterisks or n.s. on the line between coefficients indicates a significant difference, or no significant difference (n.s.), between the PT/FT wage differential for non-casual and casual employees.
The 1,627 outliers on hours and wage were also excluded from the estimation process.

Table 5: Sensitivity of the Part-Time/Full-Time Wage Differential to Age

Sensitivity to	Casual Status	Age	Men		Women	
Age group	Non-casuals		0.194	***	0.102	***
		<30 years old		*		n.s.
	Casuals		0.075	*	0.116	***
	Non-casuals		0.114	***	0.101	***
		30-50 years old		*		n.s.
	Casuals		0.029		0.079	***
	Non-casuals		0.118	***	0.108	***
		>50 years old		n.s.		n.s.
	Casuals		0.133	*	0.101	*

Source: HILDA, Waves 1-10.
Notes: Standard errors are cluster robust.
*, ** and *** beside a coefficient indicates significantly different from zero at the 5%, 1% and 0.1% levels.
Asterisks or n.s. on the line between coefficients indicates a significant difference, or no significant difference (n.s.), between the PT/FT wage differential for non-casual and casual employees.
The 1,627 outliers on hours and wage were excluded from the estimation process.
Separate regressions were run for the various age groups.

Table 6: Sensitivity of the Part-Time/Full-Time Wage Differential to Occupation and Industry

	Sensitivity to	Casual Status	Men		Women	
A	Managers & professionals	Non-casuals	0.115	***	0.099	***
				n.s.		n.s.
		Casuals	0.056	**	0.069	**
	Technical, trades, community & personal service workers	Non-casuals	0.134	***	0.094	***
				n.s.		n.s.
		Casuals	0.083	**	0.091	***
	Clerical, administrative &, sales workers	Non-casuals	0.155	***	0.120	***
				n.s.		n.s.
		Casuals	0.068	**	0.070	**
	Machine operators, drivers, labourers	Non-casuals	0.140	***	0.106	***
				n.s.		n.s.
		Casuals	0.078	**	0.075	***
B	Agric, forestry, fishing, mining	Non-casuals	0.132	***	0.101	***
				*		n.s.
		Casuals	0.071	**	0.075	***
	Manufacturing	Non-casuals	0.132	***	0.101	***
				*		n.s.
		Casuals	0.075	**	0.076	***
	Electricity, gas,water,construction	Non-casuals	0.130	***	0.101	***
				n.s.		n.s.
		Casuals	0.088	***	0.078	***
	Wholesale, retail, trade	Non-casuals	0.159	***	0.110	***
				**		n.s.
		Casuals	0.074	**	0.080	***
	Services of various types	Non-casuals	0.144	***	0.112	***
				*		n.s.
		Casuals	0.060	*	0.080	***
	Public administration	Non-casuals	0.141	***	0.104	***
				*		n.s.
		Casuals	0.070	**	0.087	***
	Education & training	Non-casuals	0.129	***	0.089	***
				**		n.s.
		Casuals	0.055	**	0.074	***
	Health care	Non-casuals	0.147	***	0.100	***
				*		n.s.
		Casuals	0.074	**	0.079	***

Source: HILDA, Waves 1-10.
Notes: Standard errors are cluster robust.
*, ** and *** beside a coefficient indicates significantly different from zero at the 5%, 1% and 0.1% levels.
Asterisks or n.s. on the line between coefficients indicates a significant difference, or no significant difference (n.s.), between the PT/FT wage differential for non-casual and casual employees.
The 1,627 outliers on hours and wage were excluded from the estimation process.
Separate regressions were run for the various occupations and industries.

Table 7: Part-Time/Full-Time Wage Differentials from Model (2)

	Beginning Status	Other Change	Status Change	Men				Women			
				Pooled OLS		Fixed Effects		Pooled OLS		Fixed Effects	
A	FT starters		Pjoiner	0.127	***	0.121	***	0.140	***	0.135	***
			Cleaver	-0.032	*	-0.029		-0.022		-0.048	
			Cjoiner	0.065	**	0.061	*	0.045		0.040	
			Cstayer	0.021		0.020		-0.005		-0.058	
	PT starters		Pleaver	-0.160	***	-0.194	***	-0.126	***	-0.151	***
			Cleaver	0.042		-0.138		-0.033	*	-0.052	*
			Cjoiner	-0.021		-0.048		0.067	*	0.066	
			Cstayer	0.001		-0.113		0.004		0.001	
B	FT starters	No empΔ	Pjoiner	0.174	***	0.189	***	0.164	***	0.163	***
		Emp Δ	Pjoiner	0.081	*	0.046		0.102	***	0.083	*
			Cleaver	-0.046	**	-0.036		-0.036		-0.062	*
			Cjoiner	0.058	**	0.061	*	0.049		0.046	
			Cstayer	0.016		0.022		-0.012		-0.062	
	PT starters	No empΔ	Pleaver	-0.183	***	-0.224	***	-0.140	***	-0.149	***
		Emp Δ	Pleaver	-0.106	*	-0.079		-0.083	**	-0.147	***
			Cleaver	0.018		-0.187	*	-0.042	*	-0.057	*
			Cjoiner	-0.044		-0.095		0.059	*	0.066	
			Cstayer	-0.011		-0.129		-0.001		0.000	
C	FT starters	No ind Δ	Pjoiner	0.178	***	0.199	***	0.160	***	0.152	***
		Indust Δ	Pjoiner	0.055		0.000		0.074	*	0.072	
			Cleaver	-0.033	*	-0.028		-0.022		-0.046	
			Cjoiner	0.070	***	0.070	**	0.057	*	0.050	
			Cstayer	0.020		0.022		-0.001		-0.051	
	PT starters	No ind Δ	Pleaver	-0.194	***	-0.211	***	-0.136	***	-0.145	***
		Indust Δ	Pleaver	-0.101	**	-0.150	*	-0.091	***	-0.172	***
			Cleaver	0.023		-0.148	*	-0.038	*	-0.051	*
			Cjoiner	-0.033		-0.058		0.060	*	0.067	
			Cstayer	-0.004		-0.117		0.002		0.001	
D	FT starters	No occ Δ	Pjoiner	0.144	***	0.138	***	0.153	***	0.145	***
		Occup Δ	Pjoiner	0.098	**	0.096		0.093	**	0.095	*
			Cleaver	-0.033	*	-0.031		-0.021		-0.047	
			Cjoiner	0.066	***	0.061	*	0.052	*	0.046	
			Cstayer	0.021		0.020		-0.004		-0.054	
	PT starters	No occ Δ	Pleaver	-0.207	***	-0.224	***	-0.131	***	-0.143	***
		Occup Δ	Pleaver	-0.095	*	-0.166	*	-0.113	***	-0.180	***
			Cleaver	0.019		-0.142		-0.034	*	-0.050	*
			Cjoiner	-0.029		-0.047		0.066	*	0.068	
			Cstayer	-0.004		-0.110		0.004		0.000	

Source: HILDA, Waves 1-10.
Notes: Standard errors are cluster robust.
*, ** and *** beside a coefficient indicates significantly different from zero at the 5%, 1% and 0.1% levels.

Table 8: Part-Time/Full-Time Wage Differentials from Model 3

Casual Status	Men				Women			
	Pooled OLS		Fixed Effects		Pooled OLS		Fixed Effects	
	Coef		Coef		Coef		Coef	
Full-Time starters								
PT effect in same yr	0.004		0.095		0.062		0.083	*
PT effect after 1 yr	-0.009		0.129		0.073		0.126	*
PT effect after 2 yrs	0.006		0.109		-0.033		0.086	
Casual effect in same yr	0.102	**	0.050		0.001		-0.026	
Casual effect after 1 yr	0.161	***	0.077	*	-0.018		-0.041	
Casual effect after 2 yrs	0.195	***	0.070		-0.018		-0.049	
Part-Time starters								
FT effect in same yr	-0.099		0.107		-0.106	**	-0.116	**
FT effect after 1 yr	0.054		0.123		-0.021		-0.063	
FT effect after 2 yrs	-0.067		0.065		-0.030		-0.064	
Casual effect in same yr	-0.032		-0.073		0.122	**	0.020	
Casual effect after 1 yr	0.001		-0.062		0.085		0.005	
Casual effect after 2 yrs	0.045		-0.109		0.054		-0.069	

Standard errors are cluster robust.
*, ** and *** beside a coefficient indicates significantly different from zero at the 5%, 1% and 0.1% levels.

Appendix: Full Estimates of Model (1), Specification 3

	Men				Women			
	Pooled OLS		Fixed Effects		Pooled OLS		Fixed Effects	
Part Time	-0.111	*	0.157	***	-0.004		0.106	***
Casual	0.019		0.040	**	-0.056	*	0.014	
PartTime#casual	-0.007		-0.039		0.029		0.025	
Multiple jobs	0.006		-0.032	*	-0.034	*	-0.018	
Standard schedule	-0.054	***	-0.003		-0.035	**	-0.026	**
Fixed contract	0.033	*	0.007		0.025	*	0.006	
Labour hire firm	0.057		0.070	***	0.070	*	0.038	*
Vic	-0.024		0.028		-0.062	***	0.038	
Qld	-0.028		-0.083	*	-0.060	***	0.052	
SA	-0.098	**	-0.059		-0.071	**	-0.001	
WA	0.001		-0.065		-0.022		0.012	
Tas	-0.073		-0.060		-0.020		-0.005	
NT	0.039		0.022		0.019		-0.025	
ACT	0.099	*	0.027		0.084	*	-0.019	
Married	0.151	***	0.042	*	0.085	***	0.021	
De facto	0.123	***	0.030	*	0.087	***	0.030	*
Sep, divorced, widowed	0.095	**	0.045	*	0.056	*	0.025	
Born other ES country	0.031		omit		0.034		omit	
Born NES country	-0.085	**	omit		-0.041	*	omit	
Inner regional	-0.077	***	-0.032		-0.049	***	-0.057	**
Outer regional	-0.064	*	0.005		-0.072	**	-0.024	
Remote area	0.070		0.082		0.017		0.066	
25-29 yrs old	0.044		0.012		0.055	**	0.017	
30-34 yrs old	0.009		-0.028		0.036		-0.012	
35-39 yrs old	-0.039		-0.073	**	-0.001		-0.040	
40-44 yrs old	-0.074		-0.100	**	-0.007		-0.072	*
45-49 yrs old	-0.159		-0.128	***	-0.039		-0.088	*
50-54 yrs old	-0.201	*	-0.127	***	-0.069		-0.096	*
55-64 yrs old	-0.204	*	-0.144	***	-0.067		-0.112	*
Tenure	0.008	***	0.001		0.011	***	0.002	
Tenure-sq	0.000		0.000		0.000	**	0.000	
Experience	0.025	***	0.018	*	0.021	***	0.019	***
Experience-sq	0.000	***	-0.001	***	0.000	***	-0.001	***
Postgraduate	0.058	***	0.058		0.459	***	0.125	*
Grad dip/cert	0.467	***	0.060		0.390	***	0.080	
Bachelor	0.449	***	-0.002		0.349	***	0.044	
Diploma	0.250	***	0.018		0.187	***	-0.005	
Certificate 3/4	0.156	***	0.059		0.068	***	0.003	
Certificate 1/2	-0.131		-0.066		-0.031		-0.069	
Year 12	0.141	***	-0.132	**	0.101	***	-0.041	
Constant	2.642	***	3.182	***	2.701	***	2.900	***

Source: HILDA, Waves 1-10. Notes: Standard errors are cluster robust.
*, ** and *** beside a coefficient indicates significantly different from zero at the 5%, 1% and 0.1% levels.